This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1. (Previously Presented) A method of dispersing a solid insoluble material in an aqueous solution comprising the following steps:
- (i) providing a formulation comprising at least one finely divided solid insoluble material and at least one dispersant comprising a water soluble copolymer wherein said copolymer comprises a residue of a first comonomer and a residue of a second comonomer, wherein said first comonomer is an α,β -unsaturated oxyacid or anhydride and said second comonomer is an olefin having at least one polymerizable double bond and wherein the second comonomer is selected from the group consisting of β -pinene, 5-ethylidene-2-norbornene, methylene cyclohexane and methylene cyclopentane;
 - (ii) dispersing said formulation in an aqueous medium.
- 2. (Original) A method according to claim 1 wherein the copolymer contains additional comonomer residues which will not substantially change the character of the copolymer.

3-8. (Cancelled)

- 9. (Previously Presented) A method of dispersing a solid active water-insoluble agrochemical principal in an aqueous solution comprising the following steps:
- (i) providing a formulation comprising at least one finely divided solid active water-insoluble agrochemical principal and at least one dispersant comprising a water soluble copolymer wherein said copolymer comprises a residue of a first comonomer and a residue of a second comonomer, wherein said first comonomer is an α,β -unsaturated oxyacid or anhydride and said second comonomer is an olefin having at least one polymerizable double bond and

wherein at least one of said first comonomer and said second comonomer is substituted, wherein the substituents for said first comonomer are selected from the group consisting of esters, amides, thioesters and other functional groups derived from reaction with nucleophilic reagents and wherein the substituents for the second comonomer are selected from the group consisting of epoxides; sulfonates; esters; amides; and optionally substituted pendent aromatic and heteroaromatic groups wherein said optional substituents are selected from the group consisting of sulfonates, nitrates, phosphates and other substituents derived from reaction with electrophilic reagents; with the proviso that when the second comonomer is sulphonated styrene or sulphonated isobutylene, the first comonomer is substituted;

- (ii) dispersing said formulation in an aqueous medium.
- 10. (Original) A method according to claim 9 wherein the first comonomers are selected from the group consisting of fumaric acid, maleic acid and anhydrides, and the esters, amides and imides derived from them, itaconic acid and anhydride and the corresponding esters amides and imides derived from them, acrylic and methacrylic acids and the corresponding esters and amides derived from them, vinylphosphonic acid and the corresponding esters and amides derived from it and ethylene sulphonic acid and the esters and amides derived from it.
- 11. (Original) A method according to claim 9 wherein the second comonomer is selected from the group consisting of β -pinene, 5-ethylidene-2-norbornene, methylene cyclohexane and methylene cyclopentane.
- 12. (Original) A method according to claim 9 wherein the second comonomer is selected from the group consisting of substituted and unsubstituted norbornene, cyclopentadiene and substituted cyclopentadienes, substituted and unsubstituted dicyclopentadienes, cyclohexenes, furans and indenes.

- 13. (Original) A method according to claim 9 wherein the second comonomer is selected from the group consisting of limonene and similar terpenes, vinyl cyclohexanes, vinyl cyclohexanes, vinyl cyclohexanes, vinyl pyridines, vinyl thiophenes, vinyl naphthalenes, vinyl furans, vinyl pyrans and, vinyl pyrrolidones.
- 14. (Original) A method according to claim 9 wherein the second comonomer is an α-olefin having an alkyl group selected from the group consisting of dissobutylene, isobutylene, n-octene, n-decene, allyglycidylether or vinylisobutylether.
- 15. (Previously Presented) A method according to claim 9 wherein the first comonomer is of formula I

I

wherein R₁ is a metal, quaternary ammonium, phosphonium or sulphonium cation, R₂ is hydrogen, C₁ to C₄ alkyl or CH₂CO₂H, Y is a carbon atom, the group O=S, or the group POR where R is a hydrogen atom or alkyl radical having from 1 to 10 carbon atoms (or carboxylated such radical), R₃ is hydrogen and R₄ is hydrogen, an alkyl radical or a carboxylic acid derivative of formula II

wherein R₅ is OR₆, NR₆R₇ or SR₆, where R₆ and R₇ are hydrogen, alkyl, or alkyl groups with a hetero atom substituent.

16. (Previously Presented) A method according to claim 9 wherein the second comonomer is a vinyl compound of formula III

$$CH_2 = C$$

$$R_g$$
III

wherein R₈ represents hydrogen or a straight or branched chain alkyl of from 1-4 carbon atoms and R₉ represents hydrogen, a branched chain alkyl radical of from 1-12 carbon atoms or cycloalkyl radical;

and/or the second comonomer is a vinyl compound of formula IV

$$CH_2 = C$$

$$R_{10}$$

$$R_{11}$$

wherein R_{10} is a straight or branched chain alkyl radical of from 1-4 carbons, and R_{11} is given by formula V, VI or VII

$$R_{12}$$
 R_{12}
 V
 VI
 VII

wherein R_{12} represents one or more alkyl radicals or one or more of H, Cl, OR, SO_3R_1 , NO_2 and PO_3R_1 , and X is a hetero atom other than carbon where R is a hydrogen atom or alkyl radical having from 1 to 10 carbon atoms (or carboxylated such radical) and R_1 is a metal, quaternary ammonium, phosphonium or sulphonium cation;

and/or the second comonomer is an olefin of formula VIII

wherein R_{13} is Cl, SO_3R_1 , alkyl, O-alkyl or O-aryl, R_{14} represents from 4-20 carbon atoms such as to make a cyclic or polycyclic alkane or polyalkenyl compound, and R_{15} is an epoxide or SO_3R_1 reacted with an unsaturated portion of the ring comprising R_{14} ; and/or the second comonomer is an exocyclic olefin of formula IX

where R₁₄ and R₁₅ are as hereinabove defined;

and/or the second comonomer is an internal olefin of formula X,

$$R_9$$
 $C = C$
 R_9
 X

where R₉ is the same or different and as hereinabove defined.

- 17. (Original) A method according to claim 9 wherein the copolymer contains additional comonomer residues which will not substantially change the character of the copolymer.
- 18. (Previously Presented) An agricultural formulation comprising at least one finely divided solid insoluble material and at least one dispersant comprising a water soluble copolymer wherein said copolymer comprises a residue of a first comonomer and a residue of a second comonomer, wherein said first comonomer is an α,β-unsaturated oxyacid or anhydride and said second comonomer is an olefin having at least one polymerizable double bond and wherein at least one of said first comonomer and said second comonomer is substituted, wherein the substituents for said first comonomer are selected from the group consisting of esters, amides, thioesters and other functional groups derived from reaction with nucleophilic reagents and wherein the substituents for the second comonomer are selected from the group consisting of epoxides; sulfonates; esters; amides; and optionally substituted pendent aromatic and heteroaromatic groups wherein said optional substituents are selected from the group consisting of sulfonates, nitrates, phosphates and other substituents derived from reaction with electrophilic reagents; with the proviso that when the second comonomer is sulphonated styrene or sulphonated isobutylene, the first comonomer is substituted, and that when one of the first and second comonomers is substituted with an ester group containing a polyalkyleneoxy moiety, the other of the first and second comonomers must be substituted.
- 19. (Original) An agricultural formulation according to claim 18 wherein the formulation is in the form of a suspension concentrate (SC), a wettable powder (WP) or a water dispersible granule (WG).
- 20. (Original) An agricultural formulation according to claim 18 wherein first comonomers are selected from the group consisting of fumaric acid, maleic acid and anhydrides, and the esters, amides and imides derived from them, itaconic acid and anhydride and the corresponding esters amides and imides derived from them, acrylic and methacrylic acids and

the esters and amides derived from them, vinylphosphonic acid and the corresponding esters and amides derived from it and ethylene sulphonic acid and the esters and amides derived from it.

- 21. (Original) An agricultural formulation according to claim 18 wherein the second comonomers are selected from the group consisting of β -pinene, 5-ethylidene-2-norbornene, methylene cyclohexane and methylene cyclopentane.
- 22. (Original) An agricultural formulation according to claim 18 wherein the second comonomers are selected from the group consisting of substituted and unsubstituted norbornene, cyclopentadiene and substituted cyclopentadienes, substituted and unsubstituted dicyclopentadienes, cyclohexenes, furans and indenes.
- 23. (Original) An agricultural formulation according to claim 18 wherein the second comonomers are selected from the group consisting of limonene and similar terpenes, vinyl cyclohexanes, vinyl cyclohexenes, vinyl pyridines, vinyl thiophenes, vinyl naphthalenes, vinyl furans, vinyl pyrans and, vinyl pyrrolidones.
- 24. (Previously Presented) An agricultural formulation according to claim 18 wherein the olefin is an α-olefin having an alkyl group selected from the group consisting of diisobutylene, isobutylene, n-octene, n-decene, allylglycidylether and vinylisobutylether.
- 25. (Previously Presented) An agricultural formulation according to claim 18 wherein the first comonomer is of formula I

I

wherein R₁ is a metal, quaternary ammonium, phosphonium or sulphonium cation, R₂ is hydrogen, C₁ to C₄ alkyl or CH₂CO₂H, Y is a carbon atom, the group O=S, or the group POR where R is a hydrogen atom or alkyl radical having from 1 to 10 carbon atoms (or carboxylated such radical), R₃ is hydrogen and R₄ is hydrogen, an alkyl radical or a carboxylic acid derivative of formula II:

wherein R₅ is OR₆, NR₆R₇ or SR₆, where R₆ and R₇ are hydrogen, alkyl, O-alkyl, or alkyl groups with a hetero atom substituent.

26. (Previously Presented) An agricultural formulation according to claim 18 wherein the second comonomer is of formula III

$$CH_2 = C$$

$$R_9$$
III

wherein R₈ represents hydrogen or a straight or branched chain alkyl of from 1-4 carbon atoms, R₉ represents hydrogen, a branched chain alkyl radical of from 1-12 carbon atoms, or a cycloalkyl radical;

and/or the second comonomer is a vinyl compound of formula IV

$$CH_2 = C$$

$$R_{11}$$

$$IV$$

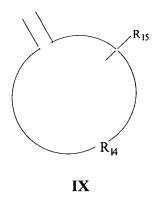
wherein R_{10} is a straight or branched chain alkyl radical of from 1-4 carbons and R_{11} is of formula V, VI or VII

$$R_{12}$$
 R_{12}
 V
 VI
 VII

wherein R_{12} represents one or more alkyl radicals or one or more of H, Cl, OR, SO_3R_1 , NO_2 and PO_3R_1 , and X is a hetero atom other than carbon, where R is a hydrogen atom or alkyl radical having from 1 to 10 carbon atoms (or carboxylated such radical) and R_1 is a metal, quaternary ammonium, phosphonium or sulphonium cation;

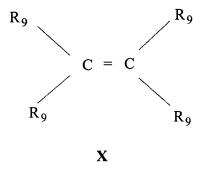
and/or the second comonomer is an olefin shown by formula VIII,

wherein R_{13} is Cl, SO_3R_1 , alkyl, O-alkyl or O-aryl, R_{14} represents from 4-20 carbon atoms such as to make a cyclic or polycyclic alkane or polyalkenyl compound and R_{15} is an epoxide or SO_3R_1 reacted with an unsaturated portion of the ring comprising R_{14} ; and/or the second comonomer is an exocyclic olefin shown by formula IX



where R₁₄ and R₁₅ are as hereinabove defined;

and/or the second comonomer is an internal olefin of formula X,



where R₉ is the same or different and as hereinabove defined.

- 27. (Original) An agricultural formulation according to claim 18 wherein the copolymer contains additional comonomer residues which will not substantially change the character of the copolymer.
- 28. (Original) An agricultural formulation according to claim 18 wherein the dispersant is readily soluble in water.
- 29. (Original) An agricultural formulation according to claim 18 wherein the dispersant is an agriculturally acceptable salt of the copolymer and wherein the salt comprises sodium, potassium and/or ammonium ions.

- 30. (Original) An agricultural formulation according to claim 18 wherein the copolymer is polyanionic.
- 31. (Original) An agricultural formulation according to claim 18 wherein the copolymer is in the form of its free acid.
- 32. (Original) An agricultural formulation according to claim 18 wherein the dispersant is a water- soluble agriculturally acceptable derivative of the copolymer wherein said derivative is selected from the group consisting of polyalkyleneoxy derivatives, polyethyleneglycol derivatives, polyamide derivatives and polyvinyl alcohol derivatives.
- 33. (Previously Presented) An agricultural formulation according to claim 18 wherein the copolymer has a molecular weight in the range of from 1000 to 90000 daltons.
- 34. (Original) An agricultural formulation according to claim 18 wherein the water-insoluble materials are selected from the group consisting of herbicides, insecticides, fungicides, biocides, molluscicides, algaicides, plant growth regulators, anthelmintics, rodenticides, nematocides, acaricides, amoebicides, protozoacides, fertilizers, crop safeners, fillers and carriers and other adjuvants.
- 35. (Original) An agricultural formulation according to claim 18 wherein the formulation further comprises a surfactant wetting agent.
- 36. (Original) An agricultural formulation according to claim 35 wherein the surfactant wetting agent is selected from the group consisting of an alkylpolysaccharide; di or mono alkyl sulphosuccinate derivative; a nonionic surfactant loaded onto an inert silicate carrier; and a non-ionic surfactant delivered in the form of a urea surfactant complex.

- 37. (Previously Presented) A method of making an agrochemical formulation comprising the steps of:
- (i) combining at least one finely divided solid insoluble material, and at least one dispersant comprising a water soluble copolymer wherein said copolymer comprises a residue of a first comonomer and a residue of a second comonomer, wherein said first comonomer is an α,β-unsaturated oxyacid or anhydride and said second comonomer is an olefin having at least one polymerizable double bond and wherein at least one of said first comonomer and said second comonomer is substituted, wherein the substituents for said first comonomer are selected from the group consisting of esters, amides, thioesters and other functional groups derived from reaction with nucleophilic reagents and wherein the substituents for the second comonomer are selected from the group consisting of epoxides; sulfonates; esters; amides; and optionally substituted pendent aromatic and heteroaromatic groups wherein said optional substituents are selected from the group consisting of sulfonates, nitrates, phosphates and other substituents derived from reaction with electrophilic reagents; with the proviso that when the second comonomer is sulphonated styrene or sulphonated isobutylene, the first comonomer is substituted, and that when one of the first and second comonomers is substituted with an ester group containing a polyalkyleneoxy moiety, the other of the first and second comonomers must be substituted.
- 38. (Previously Presented) A method according to claim 37 comprising the steps of:
- (i) combining at least one finely divided solid insoluble material, and at least one dispersant comprising a water soluble copolymer wherein said copolymer comprises a residue of a first comonomer and a residue of a second comonomer, wherein said first comonomer is an α,β -unsaturated oxyacid or anhydride and said second comonomer is an olefin having at least one polymerizable double bond and wherein at least one of said first comonomer and said second comonomer is substituted, wherein the substituents for said first comonomer are selected from the group consisting of esters, amides, thioesters and other functional groups derived from reaction with nucleophilic reagents and wherein the substituents for the second

comonomer are selected from the group consisting of epoxides; sulfonates; esters; amides; and optionally substituted pendent aromatic and heteroaromatic groups wherein said optional substituents are selected from the group consisting of sulfonates, nitrates, phosphates and other substituents derived from reaction with electrophilic reagents; with the proviso that when the second comonomer is sulphonated styrene or sulphonated isobutylene, the first comonomer is substituted, and that when one of the first and second comonomers is substituted with an ester group containing a polyalkyleneoxy moiety, the other of the first and second comonomers must be substituted.

- (ii) milling said combination to a particle size range in order to obtain a stable, readily-suspendible aqueous dispersion; and
- (iii) stabilising said aqueous dispersion to obtain an SC formulation suitable for dilution in water for agricultural use.
- 39. (Previously Presented) A method according to claim 37 comprising the steps of:
- (i) combining at least one finely divided solid insoluble material, with at least one dispersant comprising a water soluble copolymer wherein said copolymer comprises a residue of a first comonomer and a residue of a second comonomer, wherein said first comonomer is an α,β-unsaturated oxyacid or anhydride and said second comonomer is an olefin having at least one polymerizable double bond and wherein at least one of said first comonomer and said second comonomer is substituted, wherein the substituents for said first comonomer are selected from the group consisting of esters, amides, thioesters and other functional groups derived from reaction with nucleophilic reagents and wherein the substituents for the second comonomer are selected from the group consisting of epoxides; sulfonates; esters; amides; and optionally substituted pendent aromatic and heteroaromatic groups wherein said optional substituents are selected from the group consisting of sulfonates, nitrates, phosphates and other substituents derived from reaction with electrophilic reagents; with the proviso that when the second comonomer is sulphonated styrene or sulphonated isobutylene, the first comonomer is substituted, and that when one of the first and second comonomers is substituted with an ester

group containing a polyalkyleneoxy moiety, the other of the first and second comonomers must be substituted; and

- (ii) milling said combination to a desired particle size to obtain a homogeneous wettable powder (WP) formulation.
- 40. (Previously Presented) A method according to claim 37 comprising the steps of:
- combining at least one finely divided solid insoluble material suitable for (i) agricultural use with at least one dispersant comprising a water soluble copolymer wherein said copolymer comprises a residue of a first comonomer and a residue of a second comonomer, wherein said first comonomer is an α,β-unsaturated oxyacid or anhydride and said second comonomer is an olefin having at least one polymerizable double bond and wherein at least one of said first comonomer and said second comonomer is substituted, wherein the substituents for said first comonomer are selected from the group consisting of esters, amides, thioesters and other functional groups derived from reaction with nucleophilic reagents and wherein the substituents for the second comonomer are selected from the group consisting of epoxides; sulfonates; esters; amides; and optionally substituted pendent aromatic and heteroaromatic groups wherein said optional substituents are selected from the group consisting of sulfonates, nitrates, phosphates and other substituents derived from reaction with electrophilic reagents; with the proviso that when the second comonomer is sulphonated styrene or sulphonated isobutylene, the first comonomer is substituted, and that when one of the first and second comonomers is substituted with an ester group containing a polyalkyleneoxy moiety, the other of the first and second comonomers must be substituted; and
- (ii) blending said combination to obtain a homogeneous wettable powder (WP) formulation.

- 41. (Previously Presented) A method according to claim 37 comprising the steps of:
- combining at least one finely divided solid insoluble material suitable for (i) agricultural use with at least one dispersant comprising a water soluble copolymer wherein said copolymer comprises a residue of a first comonomer and a residue of a second comonomer, wherein said first comonomer is an α,β-unsaturated oxyacid or aninydride and said second comonomer is an olefin having at least one polymerizable double bond and wherein at least one of said first comonomer and said second comonomer is substituted, wherein the substituents for said first comonomer are selected from the group consisting of esters, amides, thioesters and other functional groups derived from reaction with nucleophilic reagents and wherein the substituents for the second comonomer are selected from the group consisting of epoxides; sulfonates; esters; amides; and optionally substituted pendent aromatic and heteroaromatic groups wherein said optional substituents are selected from the group consisting of sulfonates, nitrates, phosphates and other substituents derived from reaction with electrophilic reagents; with the proviso that when the second comonomer is sulphonated styrene or sulphonated isobutylene, the first comonomer is substituted, and that when one of the first and second comonomers is substituted with an ester group containing a polyalkyleneoxy moiety, the other of the first and second comonomers must be substituted;
 - (ii) agglomerating said combination to form discrete granular materials; and
- (iii) drying said granular materials to obtain a water dispersible granule WG formulation.
- 42. (Original) A method according to claim 37 wherein the first comonomers are selected from the group consisting of fumaric acid, maleic acid and anhydrides, and the esters, amides and imides derived from them, itaconic acid and anhydride and the corresponding esters amides and imides derived from them, acrylic and methacrylic acids and the corresponding esters and amides derived from them, vinylphosphonic acid and the corresponding esters and amides derived from it and ethylene sulphonic acid and the esters and amides derived from it.

- 43. (Original) A method according to claim 37 wherein the second comonomer is selected from the group consisting of β-pinene, 5-ethylidene-2-norbornene, methylene cyclohexane and methylene cyclopentane.
- 44. (Original) A method according to claim 37 wherein the second comonomer is selected from the group consisting of substituted and unsubstituted norbornene, cyclopentadiene and substituted cyclopentadienes, substituted and unsubstituted dicyclopentadienes, cyclohexenes, furans and indenes.
- 45. (Original) A method according to claim 37 wherein the second comonomer is selected from the group consisting of limonene and similar terpenes, vinyl cyclohexanes, vinyl cyclohexanes, vinyl pyridines, vinyl thiophenes, vinyl naphthalenes, vinyl furans, vinyl pyrans and vinyl pyrrolidones.
- 46. (Previously Presented) A method according to claim 37 wherein the olefin is an α-olefin having an alkyl group selected from the group consisting of diisobutylene, isobutylene, n-octene, n-decene, allylglycidylether and vinylisobutylether.
- 47. (Previously Presented) A method according to claim 37 wherein the first comonomer is of formula I

I

wherein R₁ is a metal, quaternary ammonium, phosphonium or sulphonium cation, R₂ is hydrogen, C₁ to C₄ alkyl or CH₂CO₂H, Y is a carbon atom, the group O=S, or the group POR where R is a hydrogen atom or alkyl radical having from 1 to 10 carbon atoms (or carboxylated

such radical), R₃ is hydrogen and R₄ is hydrogen, an alkyl radical or a carboxylic acid derivative of formula II

wherein R_5 is OR_6 , NR_6R_7 or SR_6 , where R_6 and R_7 are hydrogen, alkyl, O-alkyl, or alkyl groups with a hetero atom substituent.

48. (Previously Presented) A method according to claim 37 wherein the second comonomer is of formula III

$$CH_2 = C$$

$$R_9$$
III

wherein R₈ represents hydrogen or a straight or branched chain alkyl of from 1-4 carbon atoms, R₉ represents hydrogen, a branched chain alkyl radical of from 1-12 carbon atoms, or a cycloalkyl radical;

and/or the second comonomer is a vinyl compound of formula IV

$$CH_2 = C$$

$$R_{11}$$

$$IV$$

wherein R_{10} is a straight or branched chain alkyl radical of from 1-4 carbons and R_{11} is of formula V, VI or VII

wherein R_{12} represents one or more alkyl radicals or one or more of H, Cl, OR, SO_3R_1 , NO_2 and PO_3R_1 , and X is a hetero atom other than carbon, where R is a hydrogen atom or alkyl radical having from 1 to 10 carbon atoms (or carboxylated such radical) and R_1 is a metal, quaternary ammonium, phosphonium or sulphonium cation;

and/or the second comonomer is an olefin shown by formula VIII.

wherein R_{13} is Cl, SO_3R_1 , alkyl, O-alkyl or O-aryl, R_{14} represents from 4-20 carbon atoms such as to make a cyclic or polycyclic alkane or polyalkenyl compound and R_{15} is an epoxide or SO_3R_1 reacted with an unsaturated portion of the ring comprising R_{14} ; and/or the second comonomer is an exocyclic olefin shown by formula IX

where R_{14} and R_{15} are as hereinabove defined;

and/or the second comonomer is an internal olefin of formula X,

$$R_9$$

$$C = C$$

$$R_9$$

$$R_9$$

$$X$$

where R₉ is the same or different and as hereinabove defined.

- 49. (Original) A method according to claim 37 wherein the copolymer contains additional comonomer residues which will not substantially change the character of the polymer.
- 50. (Original) A method according to claim 37 wherein the dispersant is readily soluble in water.
- 51. (Original) A method according to claim 37 wherein the dispersant is an agriculturally acceptable salt of the copolymer and wherein the salt comprises sodium, potassium and/or ammonium ions.
- 52. (Original) A method according to claim 37 wherein the copolymer is polyanionic.
- 53. (Original) A method according to claim 37 wherein the copolymer is in the form of its free acid.

54. (Original) A method according to claim 37 wherein the dispersant is a

water- soluble agriculturally acceptable derivative of the copolymer wherein said derivative is

selected from the group consisting of polyalkyleneoxy derivatives, polyethyleneglycol

derivatives, polyamide derivatives and polyvinyl alcohol derivatives.

55. (Previously Presented) A method according to claim 37 wherein the

copolymer has a molecular weight in the range of from 1000 to 90000 daltons.

56. (Original) A method according to claim 37 wherein the water-insoluble

materials are selected from the group consisting of herbicides, insecticides, fungicides, biocides,

molluscicides, algaicides, plant growth regulators, anthelmintics, rodenticides, nematocides,

acaricides, amoebicides, protozoacides, fertilizers, crop safeners, fillers and carriers and other

adjuvants.

57. (Previously Presented) An agricultural formulation produced by the

method of any one of claims 37 to 41.

58-65. (Cancelled)

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